

SNIPPETS

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CHINESE FLOUR ADULTERATED WITH PULVERISED LIME

Pulverised lime is being added to bleaching agents used in Chinese flour in a bid to cut production costs and boost profits, China state media has reported this week. Yuzhong Food Additive Company in Rugao in East China's Jiangsu province is alleged to have added 500g (1.1 lbs) of pulverised lime to every 2 kg of bleaching agent. *FOODnavigator.com 09-Apr-2010*

STUDENT AWARDS STIMULATING INNOVATION

The food industry is encouraging the new generation of food technologists by running competitions for students who come up with new product formulations – which also helps manufacturers spot the best new talent. In April the winners of the Belgian Trophéla competition, supported by the CIAA, will be announced at the final TrueFood conference in Brussels. The initiative was started by the Vaucluse Chamber of Commerce in France in 2000, with the main objective to encourage students to “create, use and develop new food products”. Since its inception, more than 150 food products have been created out of the competition, more than 20 of which have been placed on the French market. *FOOD-navigator.com 9 April 10* (Any ideas as to similar results from SAAFoST Student Evenings? Ed.)

ENLIGHTENING CONSUMERS TO THE BENEFITS OF VITAMIN D

Vitamin D refers to two biologically inactive precursors - D3, also known as cholecalciferol, and D2, also known as ergocalciferol. The former, produced in the skin on exposure to UVB radiation (290 to 320 nm), is said to be more bioactive.

Both D3 and D2 precursors are hydroxylated in the liver and kidneys to form 25-hydroxyvitamin D (25(OH)D), the non-active 'storage' form, and 1,25-dihydroxyvitamin D (1,25(OH)₂D), the biologically active form that is tightly controlled by the body.

While our bodies do manufacture vitamin D on exposure to sunshine, the levels in some northern countries are so weak during the winter months that our body makes no vitamin D at all. This means that dietary supplements and fortified foods are seen by many as the best way to boost intakes of vitamin D.

And the science supports maintaining adequate levels, with vitamin D deficiency in adults reported to precipitate or exacerbate osteopenia, osteoporosis, muscle weakness, fractures, common cancers, autoimmune diseases, infectious diseases and

cardiovascular diseases. There is also some evidence that the vitamin may reduce the incidence of several types of cancer and type-1 diabetes.

NUTRAingredients.com 30 March 2010

LACTIC BACTERIA BREAKTHROUGH MAY REDUCE BREAD ADDITIVE USE.

Researchers in Finland have discovered lactic bacteria that naturally produce hydrocolloids in wheat bread using sourdough, and could be used to make additive-free products that meet taste and texture requirements.

Sourdough always contains lactic acid bacteria, which are responsible for the fermentation process. But Kati Katina, senior research scientist at VTT Technical Research Centre of Finland led a three-year project to screen over 100 other cereal and food-based microbes to find out which ones work in a wheat matrix and can yield helpful hydrocolloids. The first phase of the project involved a modelling system.

In a report on the work published in the journal *Food Microbiology*, Katina and her team said that *Weissella confusa* was identified as a strain with particular potential. Others from the general *Leuconostoc*, *Lactobacillus*, and *Weissella* were seen to produce exopolysaccharides, but with some strains the positive technical results were marred by acidification. This was not the case with *W. confusa*. *NUTRAingredients.com 15 Mar-2010. Food Microbiology Volume 26, Issue 7, October 2009, Pages 734-743*

LABELING AND ADVERTISING OF FOODSTUFFS REGULATIONS.

Published in the Government Gazette – Government Notice R 146 on Monday 1 March.

Note that the original regulations published for comment in July 2007 were amended as far as circumstances would allow but that certain parts of these regulations, i.e. i) Nutrient Profile Model, ii) Health Claims, iii) Serving Sizes, iv) Marketing of food and alcoholic beverages to children and v) Dietary Guidelines on labels, were put on hold pending further deliberation and consultation. The exceptions listed above are thus not part of the regulations published on Monday 1 March. They constitute "phase two" of the Regulations and will be published as a draft for comment at a later stage.

You can get a copy by going to – <http://www.doh.gov.za/department/foodcontrol/main.html> SAAFoST might also be able to let you have a copy.

COFFEE CONSUMPTION AND TYPE 2 DIABETES

Previous studies have indicated that a high coffee consumption may be related to a decrease in diabetes risk. A study by Zhang et al. published in the journal *Nutrition, Metabolism and Cardiovascular Diseases* opens in a new window has examined the association between coffee consumption and the incidence of type 2 diabetes in people with normal glucose tolerance but belonging to a population with a high incidence and prevalence of the disease.

The study found that participants with the highest coffee intake of 12 or more cups a day, consumed by 8% of the participants, had a 67% lower risk of developing diabetes than coffee non-drinkers.

Although the study did not investigate the biological mechanisms through which coffee exerted its effects, the researchers list a number of possible mechanisms. Firstly, they suggest that the antioxidants in coffee may be related to the risk of diabetes because oxidative stress may be a pathogenic mechanism linked to insulin resistance. Secondly, chlorogenic acid in coffee may play a part in inhibiting glucose absorption in the intestine. Thirdly Zhang et al. suggest that coffee intake and diabetes may be linked through an increase in basal energy expenditure, the stimulation of fat oxidation and the mobilisation of glucose in muscles. The final suggestion is that coffee contains magnesium which has been found in previous studies to be associated with a reduced risk for type 2 diabetes. Those participants who drank the most coffee also had the highest magnesium consumption.

RSSL Food E-news 478: 24 February – 03 March 2010

EC CAN BALANCE EFSA'S MASS ANTIOXIDANT REJECTION: ERNA

The European Food Safety Authority's mass rejection of antioxidant foods and constituents including prunes, bananas, resveratrol, pomegranate and pine bark extract will provide an interesting test of the European Commission's risk management role, the European Responsible Nutrition Alliance (ERNA) has said.

EFSA's opinion related to 169 dossiers and saw its Panel on Dietetic Products, Nutrition and Allergies (NDA) turn down submissions linking antioxidant health benefits to blackcurrant juice; royal jelly; acerola; guava; various grape juices and extracts; honey; olive and olive extracts; hibiscus; chlorella algae; green tea; cranberry; lingonberry and sea buckthorn oil.

Other nutrients given the thumbs down included spirulina; triphala; chlorophyll; sulphoraphane glucosinolate; elderberry juice; glutathione; aged garlic; rooibos; ginseng; ginkgo biloba; cherries; echinacea; salvia; bilberry and capsicum.

In its opinion, the NDA stated that: "...no evidence has been provided to establish that having antioxidant activity/content and/or antioxidant properties is a beneficial physiological effect."

It said it **assumed** those properties were to, "scavenge free radicals and/or attributable to their reducing capacity." *NUTRAingredients.com 2 March 2010*

SCIENTISTS FIND THE FEMALE HORMONE PROGESTERONE IN PLANT

Researchers at the University of Illinois in Chicago are reporting for the first time the discovery of the female sex hormone progesterone in a plant. Guido F. Pauli and colleagues said they have found the steroid hormone in *Juglans regia* (common walnut). The discovery came as a surprise since scientists thought that only animals could make progesterone. A steroid hormone, secreted by the ovaries, progesterone prepares the uterus for pregnancy and maintains pregnancy. A synthetic version, progestin, is used in birth control pills and other medications.

"The significance of the unequivocal identification of progesterone cannot be overstated," Pauli and colleagues wrote in the article published by the *Journal of Natural Products*. "While the biological role of

progesterone has been extensively studied in mammals, the reason for its presence in plants is less apparent." They speculate that the hormone, like other steroid hormones, might be an ancient bioregulator that evolved billions of years ago, before the appearance of modern plants and animals. The new discovery may change scientific understanding of the evolution and function of progesterone in living things. *Crop Biotech Update 26 Feb. 2010*

The original paper is available for download at <http://dx.doi.org/10.1021/np9007415>

COLOURED CHICKPEAS: THE NEXT FUNCTIONAL FOOD

A study published in the *Journal of Food Science* shows that coloured chickpeas have significantly higher antioxidant qualities than the regular cream and beige color varieties. Known to be high in protein, chickpeas are the second most important pulses in the world with crops grown in more than 37 countries. Legumes also offer health-benefiting antioxidants, including polyphenols and flavonoids, which position them as a functional food.

Researchers from the Volcani Center in Israel looked at 17 lines of chickpeas ranging from black, red, brown, green, rubiginous, gray, yellow, and beige. The chickpeas were separated into seed parts and ground into a fine powder for analysis. Results indicated that coloured chickpeas contained up to 13 times more polyphenols, up to 11 times more flavonoids, and up to 31 times more antioxidant activity than beige chickpeas. *IFT Weekly Newsletter Feb 24, 2010*.

STUDY WARNS OF FUTURE THREATS TO FOOD SAFETY

Experts from Unilever, the Food Standards Authority (FSA), National Center for Food Safety and Technology (NCFST) have mapped out future threats to food safety and strategies to tackle them in a new study.

The researchers concluded that the most important factors set to increase the burden of food-borne disease in the next few decades are increased global demand for food, international trade, and greater consumption of high-value foods like meat and poultry and fresh produce.

<http://dx.doi.org/10.1016/j.ijfoodmicro.2010.01.043>
FOODnavigator.com 19 Feb. 2010.

ALE IS GOOD, MAKE NO BONES ABOUT IT.

A beer a day could keep brittle bones at bay. That's because beer is rich in silicon, an element that has been linked to bone health. But what type of beer should you drink?

Charles Bamforth and Troy Casey at the University of California, Davis, analysed 100 beers from around the world and found that the brews contained between 6.4 and 56 milligrams of silicon per liter, with an average of 29 milligrams per liter. Looking at the silicon levels in beer's ingredients, they found that most of it comes from the husks of malted barley *Journal of the Science of Food and Agriculture*, DOI: 10.1002/ISFA.38840).

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